

10/511740

DT01 Rec'd PCT/PTO 18 OCT 2004

English Translation of Amendments under PCT Article 34 filed on
December 11, 2003

DISCLOSURE OF INVENTION

The present invention, conceived to address the problems, has an objective to provide a security service manager system, terminal, and method which offer home and other on-demand security services at usage-based rates. Another objective of the present invention is to provide a security service manager program which realizes such a security service manager system, as well as a computer-readable storage medium containing the program.

To address the problems, the security service managing method in accordance with the present invention includes:

the sensor control step of obtaining a detection signal from a sensor and transmitting the signal to a monitor device;

the history recording step of recording operation history of the sensor; and

the fee calculation step of calculating fees from the operation history.

According to the method, the security services fees can be calculated from the operation history of the sensor used for the security services. Therefore, the user is charged fees based on his usage of the services. The sensor operation history giving a fee calculation basis may be any one of the length of time the sensor was in active operation, the number of transmitted images, and other information, or any combination of such information. Therefore, the security

service managing method provides home and other security services by a usage-based fee system.

In addition, the security service manager system in accordance with the present invention includes a security service manager terminal and a central device. The security service manager terminal includes: a sensor control section for transmitting a detection signal obtained from a sensor to a monitor device; an operation history recording section for recording operation history of the sensor; and a service history reporting section for transmitting the operation history to the central device. The central device includes a fee calculation section for calculating fees from the operation history of the sensor received from the security service manager terminal.

According to the arrangement, the security services fees can be calculated from the operation history of the sensor used for the security services. Therefore, the user is charged fees based on his usage of the services. The sensor operation history giving a fee calculation basis may be any one of the length of time the sensor was in active operation, the number of transmitted images, and other information, or any combination of such information. Therefore, the security service manager system provides home and other security services by a usage-based fee system.

In addition, a security service manager terminal in

accordance with the present invention includes: a sensor control section for transmitting a detection signal obtained from a sensor to a monitor device; an operation history recording section for recording operation history of the sensor; and a service history reporting section for transmitting the operation history recorded by the operation history recording section to a central device including a fee calculation section for calculating fees from the operation history.

According to the arrangement, the security services fees can be calculated in the central device from the operation history of the sensor connected to the security service manager terminal used for the security services. Therefore, the user is charged fees based on his usage of the services. The sensor operation history giving a fee calculation basis may be any one of the length of time the sensor was in active operation, the number of transmitted images, and other information, or any combination of such information. Therefore, the security service manager terminal provides home and other security services by a usage-based fee system.

Another security service manager terminal in accordance with the present invention includes: a sensor control section for transmitting a detection signal obtained from a sensor to a monitor device; an operation history recording section for

recording operation history of the sensor; a fee calculation section for calculating fees from the operation history; a fee collection device; and a fee collection section for collecting the fees calculated by the fee calculation section using the fee collection device.

According to the arrangement, fees can be collected through a prepaid card, e-money, cash, a credit card, etc. using a suitable fee collection device. Therefore, the security service manager terminal can single-handedly implement the fee calculation and collection functionality, as well as the obtaining and transmitting of the detection signal from the sensor. As a result, fees can be collected efficiently at the very site where security services are provided.

Additional objects, advantages and novel features of the invention will be set forth in part in the description which follows, and in part will become apparent to those skilled in the art upon examination of the following or may be learned by practice of the invention.

20 BRIEF DESCRIPTION OF DRAWINGS

Figure 1 is a schematic functional block diagram showing the arrangement of a security service manager system in accordance with an embodiment of the present invention.

25 Figure 2 is a schematic illustration of a security system

The service setting section (operation plan specifying means) 22a makes an operation plan setting for the sensors 12 and registers the setting with the setting entries information table TBL4 (Figure 7). Specifically, the service setting section 22a makes a sensor 12 ON/OFF plan setting under which the user can switch between the alert mode where the user receives security services and the non-alert mode where the user discontinue the security services when, for example, he is at home. Different settings can be made for different sensors 12. It is also possible, of course, to switch to alert mode immediately after the user makes such settings. The condition of the sensors 12 is tracked by the sensor integration setup section 21a to keep the sensor operation information table 3 TBL3 updated.

When the user specifies an operation plan through the human/machine interface 26, the service setting section (fee estimation means) 22a calculates fee estimates in accordance with inputs (service usage time [equal to the alert period upon estimation], security alert pattern, and sensor count) and displays the estimates (Figure 11). Thus, the user can simulate the use of security services in advance to check the fees. Through the service setting section 22a can be changed the subscription type, as well as the operation plan for the sensors 12.

The service history reporting section (service history

CLAIMS

1. A security service managing method, comprising:

the sensor control step of obtaining a detection signal from a sensor and transmitting the signal to a monitor device;

5 the history recording step of recording operation history of the sensor; and

the fee calculation step of calculating fees from the operation history.

10 2. The security service managing method as set forth in claim 1, further comprising the operation plan specifying step of specifying an operation plan for the sensor,

wherein the sensor control step includes a sub-step of operating the sensor in accordance with the operation plan.

15 3. The security service managing method as set forth in claim 2, further comprising the fee estimation step of calculating and presenting a fee estimate from the operation plan.

20 4. The security service managing method as set forth in any one of claims 1 through 3, wherein the fees calculated in the fee calculation step is collected using a fee collection device.

25 5. A security service manager system, comprising a security service manager terminal and a central device,

the security service manager terminal including: sensor control means for transmitting a detection signal obtained from a sensor to a monitor device; history recording means for recording operation history of the sensor; and history reporting means for transmitting the operation history to the central device,

the central device including fee calculation means for calculating fees from the operation history of the sensor received from the security service manager terminal.

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6. The security service manager system as set forth in claim 5, wherein the security service manager terminal further includes operation plan specifying means for specifying an operation plan for the sensor, and the sensor control means causes the sensor to operate in accordance with the operation plan.

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7. The security service manager system as set forth in claim 6, wherein the security service manager terminal further includes fee estimation means for calculating and presenting a fee estimate from the operation plan.

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8. The security service manager system as set forth in any one of claims 5 through 7, further comprising: a fee collection device; and fee collection means for collecting the fees

calculated by the fee calculation means using the fee collection device.

9. A security service manager terminal, comprising:

5 sensor control means for transmitting a detection signal obtained from a sensor to a monitor device;

 history recording means for recording operation history of the sensor; and

10 history reporting means for transmitting the operation history recorded by the history recording means to a central device including fee calculation means for calculating fees from the operation history.

10. A security service manager terminal, comprising:

15 sensor control means for transmitting a detection signal obtained from a sensor to a monitor device;

 history recording means for recording operation history for the sensor;

20 fee calculation means for calculating fees from the operation history;

 a fee collection device; and

 fee collection means for collecting the fees calculated by the fee calculation means using the fee collection device.

25 11. The security service manager terminal as set forth in

either one of claims 9 and 10, further comprising operation plan specifying means for specifying an operation plan for the sensor, wherein the sensor control means causes the sensor to operate in accordance with the operation plan.

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12. The security service manager terminal as set forth in claim 11, further comprising fee estimation means for calculating and presenting a fee estimate from the operation plan.

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13. A security service manager program causing a security service manager system as set forth in any one of claims 5 through 8 to operate, said program causing a computer to function as each of said means.

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14. A security service manager program causing a security service manager terminal as set forth in any one of claims 9 through 12 to operate, said program causing a computer to function as each of said means.

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15. A computer-readable storage medium containing the security service manager program as set forth in either one of claims 13 and 14.